

## A. De-oiling

- 1 Completely drain cooling system.
- 2 Remove thermostat element and set heater lever to warm.
- 3 Fill cooling system with a 5 % solution of water and P 3 Standard (made by Henkel) (50 g P3/1 l water).

### **Attention !**

On vehicles with **aluminum radiator**, a neutral cleaner such as P 3 Croni (made by Henkel) or Grisiron 7220 (made by Farwerke Höchst) must be used instead of the heavily alkaline cleaner P 3 Standard.

- 4 Run engine warm at medium speed up to approx. 80°C (176°F) and hold at this temperature for about 5 minutes.
- 5 Stop engine and permit cooling system to cool down to approx. 50°C (122°F).
- 6 Completely drain solution.
- 7 Immediately thereafter, fill cooling system twice with fresh water, run warm (approx. 5 minutes) and drain.

## B. Decalcification, derusting

### **Attention !**

Prior to decalcification, **be sure** to de-oil cooling system, even if there is no visible oiling-up.

1 After second flushing job during de-oiling, fill cooling system with a 10 % (100 g/l) solution of water and citric acid, tartaric acid or oxalic acid (sold by the chemical trade), while giving preference to citric acid.

2 Run engine warm at medium speed up to approx. 80°C (176°F) and hold for approx. 10 minutes at this temperature.

3 Stop engine and permit to cool down to approx. 50°C (122°F).

4 Completely drain decalcification solution.

5 Flush cooling system at least three times with fresh water, while running engine for at least 5 minutes with each flushing charge.

Badly calcified cooling systems may require a repetition of the treatment. Always prepare a fresh decalcification solution and repeat flushing steps.

6 Install thermostat element with new seal.

7 Fill the cooling system with specified coolant specification for service products page 310 to 325).

**Note:** For decalcification and derusting, commercial products named with the acids named above may also be used.

Chromic acid or products containing chromates are prohibited by sewage regulations.